

REMARKS

Status of the Application

As per the Office Action mailed September 26, 2003, Claims 1-8 are pending in the application. More specifically, the Examiner has objected to the Specification and Claims 2, 3, 5 and 6; Claim 1 stands as rejected under 35 USC § 101; Claims 2, 4 and 6 stand as rejected under 35 U.S.C. §112; Claims 2-3 and 5-8 stand as rejected under 35 U.S.C. §102; and Claims 1 and 4 stand as rejected under 35 U.S.C. §102 or in the alternative under 35 U.S.C. §103.

In this response, Applicants have cancelled Claims 1-8 and currently added Claims 9-23 only in order to provide clarity and further define the present invention, and not for reasons of patentability and/or further limitation of the invention. Support for new Claims 9 and 16 is provided by original Claim 1; support for new Claims 10, 12, and 13 is provided on page 3, lines 7-12; support for new Claim 11 is provided on page 3, lines 27-29; support for new Claims 14 and 15 is provided on page 3, lines 5-6; support for new Claim 17 is provided in original Claim 2; support for new Claim 18 is provided in original Claim 3; support for new Claim 19 is provided in original Claim 4; support for new Claims 19-22 is provided in original Claims 5-8, respectively and support for new Claim 23 is provided in the specification on page 1, lines 4-5 and page 4, lines 1-2.

Objections to the Specification and Claims

The specification stands as objected to by the Examiner with respect to the layout, in that the specification does not contain the section heading for those sections present in the application.

Applicants respond that the specification has been amended herein to include the necessary section headings as requested by the Examiner. Thus, Applicants respectfully request that the objection to the specification be withdrawn.

Claims 2, 3, 5 and 6 stand as objected to by the Examiner, asserting that the process step(s) in each of the claims 2, 3 and 6 is not in the active voice; and the phrase "characterized in that" is not in conforming with U.S. format.

Applicants have cancelled claims 1-8 and provided newly added claims 9-23 only in order to provide clarity and further define the present invention, and not for

reasons of patentability and/or further limitation of the invention. Therefore, Applicants believe that the objections to the claims have been rendered moot, and thus, respectfully requests that the Examiner withdraw the objections.

Rejection Under 35 U.S.C. §112, Second Paragraph

Claims 2, 4 and 6 stand as rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. More specifically, the Examiner asserts that the phrase "the binder resin" in claim 2 lacks antecedent basis; the phrase "the quantity thereof" in claim 4 is confusing as to which quantity of the aqueous composition is recited; and that the phrase "whereby" in claim 6 is indefinite because the action following the phrase does not necessarily occur as well as a lack of antecedent basis for the phrase "the discharged synthetic resin."

Applicants have cancelled claims 1-8 and provided newly added claims 9-24 only in order to provide clarity and further define the present invention, and not for reasons of patentability and/or further limitation of the invention. Therefore, Applicants believe that the rejections for each of claims 2, 4 and 6 have been addressed and rendered moot. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of Claims 2, 4 and 6.

Rejections Under 35 U.S.C. §101

Claim 1 stands as rejected under 35 USC §101 because the claimed invention is directed to non-statutory subject matter. The Examiner asserts that the use of the recited homopolymers or copolymers is not a proper process under 35 USC §101.

Applicants respond that Claim 1 has been cancelled and replaced by newly added Claim 9, which is directed to an aqueous cathodically depositable coating composition, only in order to provide clarity and further define the present invention, and not for reasons of patentability and/or further limitation of the invention. Therefore, Applicants believe that this rejection has been addressed and obviated or rendered moot, and thus, respectfully requests that the Examiner withdraw the rejection.

Rejections Under 35 U.S.C. §102 and §103

Claims 2, 3 and 5-8 stand as rejected under 35 U.S.C. §102(b) as being anticipated by Klein et al. (U.S. Patent 5,415,750), directing Applicants to the abstract; column 6, lines 29-68; column 9, line 13; column 12, lines 13-17; column 13, lines 1-13 and claim 5.

Applicants respond that Klein's anti-crater composition requires polymer (A), a cationic (meth)acrylic copolymer (as evidenced by component (A) having an anime number and an OH number), and a β hydroxy polyester (B) and/or a polyvinyl ether (C). Klein indicates that combinations such as A+B, A+C or A+B+C can be used (see, for example, Klein column 3, lines 3-20 and particularly column 3 lines 19-20; column 3, lines 21-36; column 4, lines 16-19; and column 4, lines 26-36). In each case, the subject matter of Klein requires the inclusion of cationic component (A). In contrast to Klein, the present invention utilizes nonionic homopolymers of 2-ethylhexyl acrylate or copolymers of 2-ethylhexyl acrylate containing at least 65% of this monomer (the residual 35% of comonomers are selected from conventional nonionic, non-functional or hydroxy-functional acrylate monomers) as an anti-crater additive in cathodic electrocoat. Klein does not teach or suggest the use of a nonionic additive for cathodic electrocoating as used in Applicants' invention and one skilled in the art would not find any guidance or incentive based on Klein that would result in the present invention.

Moreover, Klein explicitly states that "[w]ith the use of the mixture of chemically different anti-cratering agents according to the invention a synergistic effect occurs in such a manner that a good anti-cratering effect is achieved in the case of this combined use despite the fact that these substances are only used in unusually small quantities." (see column 4, lines 20-25, emphasis added). "Synergism" is defined as the "[p]roperty by which two or more agents act together more effectively than either alone. A phenomenon where the mixed effect of two influences is greater than the sum of the two influences acting separately, i.e., the unexpected interaction of parts in combination." (see *Paint/Coatings Dictionary*; LeSota, Stanley (Chairman of the Definitions Committee); published by the Federation of Societies for Coatings Technology, pg. 410 (1978); a copy of which accompanies this response). Klein does not teach or suggest that this same synergistic effect would be found with the use of nonionic homopolymers or copolymers of 2-ethylhexyl acrylate that are used in Applicants' invention. Additionally, the "synergistic" effect illustrates that the introduction of components

other than those as described in Klein, such as the present invention's nonionic component, would materially change the characteristics of the subject matter of Klein.

Therefore, Claims 2, 3 and 5-8 are not anticipated by Klein et al. and Applicants respectfully request that the Examiner's rejection under 35 U.S.C. §102(b) be withdrawn.

Claims 1 and 4 stand as rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Klein et al. (U.S. Patent 5,415,750).

Those arguments presented above are reiterated herein. Furthermore, in utilizing the teachings of Klein, one skilled in the art would have to ignore the specific teachings of Klein that require the use of a cationic (meth)acrylic copolymer(A), a β hydroxy polyester (B) and/or a polyvinyl ether (C) in the additive as has been discussed above. To arrive at Applicants' invention, the use of hindsight and reconstruction of the invention from the art using Applicants' application would be required which, is an improper basis for a rejection. Therefore, Claims 1 and 4 are neither anticipated nor rendered obvious by Klein et al. Therefore, Applicants respectfully request that the Examiner's rejection under 35 U.S.C. §102(b)/§103(a) be withdrawn.

SUMMARY

In view of the foregoing amendments and remarks, Applicants believe the stated grounds of rejection have been properly traversed, accommodated, or rendered moot and that a complete response has been made to the Non-Final Office Action mailed September 26, 2003. Applicants believe that the application stands in condition for allowance with withdrawal of all grounds of rejection. A Notice of Allowance is respectfully solicited. If the Examiner has questions regarding the application or the contents of this response, the Examiner is invited to contact the undersigned at the number provided below.

The Applicants believe that a fee for a two-month extension of time of the period for reply is due in accordance with this Response, however should any other fee be due that is unaccounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company). Furthermore, if any further

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extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. §1.136(a), and any fees required therefore are hereby authorized to be charged to Deposit Account No 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,

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PAINT/COATINGS DICTIONARY

Compiled by
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SYLVIC OIL/SYNTHETIC PAINT

Sylvic Oil See *Tall Oil*.^{44,63}

Symbiont An organism which lives in a state of symbiosis.¹⁷³

Symbiosis A living together of dissimilar organisms.¹⁷³

Symbiotic Living in that relation called symbiosis.¹⁷³

Sympathetic Inks Inks that give markings which become invisible and can be made visible by the use of a developing solution.¹⁶⁸

Syndet A contraction for the term "synthetic detergent" used loosely to signify synthetic detergents or compositions containing synthetic detergents.¹²⁷(ASTM) See *Detergent*.¹²⁷

Syndiotactic Polymer A tactic polymer in which the conventional base unit possesses, as a component of the main chain, a carbon atom with two different lateral substituents, these substituents being so arranged that a hypothetical observer advancing along the bonds constituting the main chain finds opposite steric configurations around these chain atoms in successive conventional base units.^{130,133}(IUPAC) Note: The true base unit is thus twice the size of the conventional base unit. See *Tactic Polymer, Atactic Polymer, Isotactic Polymer*.^{130,133}

Syneresis The separation of liquid from a gel. The spontaneous exudation or squeezing out of solvent or diluent as a separate phase which may occur when a gel stands undisturbed; the gel structure slowly densifies but there is no net volume change in the system.^{139,161}

Synergism Property by which two or more agents act together more effectively than either alone. A phenomenon where the mixed effect of two influences is greater than the sum of the two influences acting separately, i.e., the unexpected interaction of parts in combination. *Syn: Synergy*.

Synergistic Relating to the cooperative action of two or more discrete agencies such that their combined effect is different than the sum of the effects due to the individual agencies.(ASTM) See *Synergism*.

Synergy See *Synergism*.

Synthetic Detergent A detergent (q.v.) produced by chemical synthesis and comprising an organic composition other than soap.(ASTM)¹²⁷ Often contracted to syndet (q.v.).

Synthetic Magnetite See *Black Iron Oxide*.⁴¹

Synthetic Paint A vague term which sometimes means paints containing synthetic resins rather than naturally occurring oils or gums in the vehicle.⁷¹ The use of this term is deprecated.